

Claims

1. An object of value with a security element, the security element having a thermochromic layer, characterized in that the security element is disposed completely on the surface of the object of value, and the thermochromic layer is combined with an effect layer having visually and/or machine testable properties.

2. An object of value according to claim 1, characterized in that the effect layer has luminescent and/or magnetic properties.

3. An object of value according to claim 2, characterized in that the effect layer is a printing ink containing luminescent and/or magnetic pigments and preferably further coloring pigments.

4. An object of value according to claim 1, characterized in that the effect layer is a directly reflecting layer.

5. An object of value according to claim 4, characterized in that the directly reflecting layer is a translucent layer producing different color effects in reflected light upon a change of viewing angle.

6. An object of value according to claim 5, characterized in that the translucent layer contains interference layer pigments or liquid crystal pigments.

7. An object of value according to claim 5, characterized in that the translucent layer has a relief structure in the form of a diffraction structure which is combined with a transparent dielectric layer.

8. An object of value according to claim 4, characterized in that the directly reflecting layer is a metal layer, preferably an aluminum layer.

9. An object of value according to claim 8, characterized in that the metal layer is present at least in certain areas in the form of a screen.

10. An object of value according to claim 8 or 9, characterized in that the metal layer has gaps in the form of characters and/or patterns.

11. An object of value according to claim 10, characterized in that a metal layer, preferably an aluminum layer, is disposed in the form of a screen in the gaps.

12. An object of value according to claim 10, characterized in that a second thermochromic layer in the form of characters and/or patterns is present in the gaps.

13. An object of value according to at least one of claims 9 to 12, characterized in that the screen is present in the form of a dot or line screen.

14. An object of value according to at least one of claims 8 to 13, characterized in that a layer having a relief structure in the form of diffraction structures is disposed under the metal layer.

15. An object of value according to at least one of claims 1 to 14, characterized in that the thermochromic layer is all over.

16. An object of value according to at least one of claims 1 to 14, characterized in that the thermochromic layer is provided only in certain areas.

17. An object of value according to claim 16, characterized in that the thermochromic layer is provided in the form of characters and/or patterns.

18. An object of value according to claim 16, characterized in that the thermochromic layer is combined with at least one further thermochromic or visually recognizable layer, the layers supplementing each other to form recognizable information.

19. An object of value according to at least one of claims 1 to 18, characterized in that the thermochromic layer is disposed over the effect layer.

20. An object of value according to at least one of claims 1 to 18, characterized in that the thermochromic layer is disposed under the effect layer.

21. An object of value according to claim 20, characterized in that information in the form of characters and/or patterns is disposed under the thermochromic layer.

22. An object of value according to claim 21, characterized in that the information is printed or produced by means of a laser.

23. An object of value according to claim 20 or 21, characterized in that the information has visually and/or machine testable properties.

24. An object of value according to claim 23, characterized in that the information has luminescent or magnetic properties.

25. An object of value according to at least one of claims 21 to 24, characterized in that the information is black.

26. An object of value according to at least one of claims 1 to 25, characterized in that the thermochromic layer is opaque below a predetermined temperature and at least translucent above said temperature.

27. An object of value according to at least one of claims 1 to 25, characterized in that the thermochromic layer is translucent or transparent below a predetermined temperature and opaque above said temperature.

28. An object of value according to at least one of claims 1 to 27, characterized in that the security element is a label.

29. An object of value according to at least one of claims 1 to 28, characterized in that the object of value is a security paper, security document or product package.

30. A security element for protecting objects of value, the security element having a thermochromic layer, characterized in that the thermochromic layer is combined with a translucent layer which produces different color effects in reflected light upon a change of viewing angle, the thermochromic layer being disposed under the translucent layer.

31. A security element according to claim 30, characterized in that the translucent layer contains interference layer pigments or liquid crystal pigments.

32. A security element according to claim 30, characterized in that the translucent layer has a relief structure in the form of a diffraction structure which is combined with a transparent dielectric layer.

33. A security element according to at least one of claims 30 to 32, characterized in that the thermochromic layer is opaque below a predetermined temperature and at least translucent above said temperature.

34. A security element for protecting objects of value, the security element having a thermochromic layer, characterized in that the thermochromic layer is combined with a metal layer which is present at least in certain areas in the form of a screen.

35. A security element according to claim 34, characterized in that the metal layer has gaps in the form of characters and/or patterns.

36. A security element according to claim 35, characterized in that a metal layer, preferably an aluminum layer, is disposed in the form of a screen in the gaps.

37. A security element according to claim 35, characterized in that a second thermochromic layer in the form of characters and/or patterns is present in the gaps.

38. A security element according to at least one of claims 34 to 37, characterized in that the screen is present in the form of a dot or line screen.

39. A security element according to at least one of claims 34 to 38, characterized in that a layer having a relief structure in the form of diffraction structures is disposed under the metal layer.

40. A transfer material for producing a security element, characterized in that the transfer material has a carrier material on which a thermochromic layer is disposed which is combined with a reflecting layer.

41. A transfer material according to claim 40, characterized in that the transfer material is formed as a hot stamping foil.